

Appl. No. 09/658,538
Amdt. dated October 28, 2005
Reply to Office action of April 28, 2005

REMARKS/ARGUMENTS

Claims 1-4 and 6-50 are pending in this application. Claims 1-4, 6-19, 21-24, 26-27, 31, 33-40, and 43-50 have been amended to address antecedent basis issues.

The remaining issues regarding this application are as follows:

- The Examiner objected to the drawings under 37 CFR 1.83(a);
- The Examiner objected to Claims 7, 15-17, 23-24, 36, 38, 44 and 48-49 because of various informalities;
- The Examiner rejected Claims 1-6, 15-18, 19-25, 34-37 and 47-50 under 35 USC § 112 ¶ 1;
- The Examiner rejected Claims 2, 5, 7, 17-19, 24-27, 31, 36-39, 43, 47, 49 and 50 under 35 USC § 112 ¶ 2.
- The Examiner rejected Claims 7-14, 26-33 and 38-46 under 35 USC § 102(b) as being anticipated by Seki et al. (U.S. Patent No. 5,677,987).

Objection to the Drawings

The Examiner objected to the drawings under 37 CFR 1.83(a), indicating that the drawings must show every feature of the invention specified in the claims. Applicant traverses this objection and respectfully submits that at least Figure 11 shows the feature of “removing the at least one notch filter if the amplitude of the frequency being tested has not been reduced by at least the predetermined value.” Therefore, Applicant requests that the Examiner remove the objection to the Drawings.

Informality Objections

The Examiner objected to Claims 7, 15-17, 23-24, 36, 38, 44 and 48-49 because of various informalities. The claims objected to have been amended in accordance with the Examiner’s suggestions and are reflected in the foregoing listing of claims. Applicant appreciates the suggestions for correction. It is to be noted that correction of the various informalities should not be construed as narrowing amendments to the claims.

35 USC §112 ¶ 1

The Examiner rejected Claims 1-6, 15-18, 19-25, 34-37 and 47-50 under 35 USC § 112 ¶ 1 because the claims allegedly contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant respectfully traverses these rejections.

Claims 1-6

Currently amended Claim 1 recites, in part, “removing the at least one notch filter if the amplitude of the frequency being tested has not been reduced by at least a predetermined value.” The Examiner alleges that no details are given as to how to remove the notch filter if the amplitude of the frequency being tested has not been reduced by at least the predetermined value and, thus, one of ordinary skill in the art would be unable to actually make and use the invention.

Applicant respectfully submits that the specification, at least at page 17, lines 4-27, describes “removing the at least one notch filter if the amplitude of the frequency being tested has not been reduced by at least a predetermined value” sufficiently to enable one skilled in the art to make and use the claimed invention. Claims 2-6, which are dependent on Claim 1, likewise enable one skilled in the art to make and use the claimed invention. Accordingly, Applicant respectfully requests the Examiner withdraw these rejections to Claims 1-6.

Claims 15-18, 19-25, 34-37 and 47-50

Applicant respectfully submits that Claims 15, 19, 34 and 47, as amended, overcome the Examiner’s rejection as to those Claims, as well as Claims 16-18, 20-25, 35-37 and 48-50, which depend from independent claims. Accordingly, Applicant respectfully requests the Examiner withdraw these rejections to Claims 15-18, 19-25, 34-37 and 47-50.

Appl. No. 09/658,538
Amdt. dated October 28, 2005
Reply to Office action of April 28, 2005

35 USC § 112 ¶ 2

The Examiner rejected Claims 2, 5, 7, 17-19, 24-27, 31, 36-39, 43, 47, 49 and 50 under 35 USC § 112 ¶ 2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully traverses these rejections.

Claim 2

Applicant respectfully submits that Claim 2, as amended, overcomes the Examiner's rejection as to Claim 2. Accordingly, Applicant requests that the Examiner withdraws the rejection to Claim 2. This amendment should not be construed as narrowing the aforementioned claim.

Claim 5

Pursuant to a preliminary amendment filed April 27, 2001, Applicant has previously cancelled Claim 5.

Claims 7, 17-19, 24-27, 31, 36-39, 43, 47, 49 and 50

Applicant respectfully submits that Claims 7, 17-19, 24-27, 31, 36-39, 43, 47, 49 and 50, as amended, overcome the Examiner's rejection under 35 USC § 112 ¶ 2. Also, Claims 1-4, 6-19, 21-24, 26-27, 31, 33-40, and 43-50 have been amended to correct antecedent basis issues. These amendments should not be construed as narrowing the aforementioned claims.

35 USC § 102(b)

The Examiner rejected Claims 7-14, 26-33 and 38-46 under 35 USC § 102(b) as being anticipated by Seki et al. (U.S. Patent No. 5,677,987). Applicants respectfully traverse these rejections.

Claims 7 and 26

Currently amended Claims 7 and 26 recite, among other things, *readjusting the at least one digital filter by decreasing a depth of the at least one digital filter if a magnitude of the at least one candidate signal of unwanted acoustical feedback is not reduced by a predetermined amount, such that the unwanted acoustical feedback in the space is reduced*. Seki teaches at Col. 6:31-35 and 49-55 and Figure 4 that a coefficient

selection means selects a predetermined coefficient from a coefficient memory for a first notch filter (3_1) included in a group of notch filters ($3_1 - 3_m$) based on a howling component having a center frequency f_m (*see* Figure 4 of Seki) corresponding to a peak frequency value f_{PEAK} . Seki further teaches that the selected predetermined and previously stored coefficient causes the first notch filter to exhibit a frequency characteristic that attenuates the howling frequency component of the input signal. (*See* Col. 6:56-60 and Fig. 4). In addition, Seki teaches, if new howling occurs, the coefficients of the remaining notch filters in the group of notch filters ($3_1 - 3_m$) are sequentially set in a similar manner to suppress all howlings. (*See* Col. 6:53-63.). Thus, Seki merely selects predetermined coefficients that are stored in a memory and sequentially plugs them into a group of notch filters to eliminate corresponding peak frequencies of interest (*see* Figure 4 of Seki).

In stark contrast to Seki, Claims 7 and 26 describe the step of readjusting a digital filter by decreasing a depth of the filter if a magnitude of a candidate signal of unwanted acoustical feedback is not reduced by a predetermined amount, such that the unwanted acoustical feedback in the space is reduced. Clearly, the one time application to a notch filter of a predetermined coefficient extracted from a memory is completely different from the readjustment of a digital filter described in Claims 7 and 26. There is no indication in Seki that individual filter depths are readjusted if the magnitude of the candidate signal of unwanted acoustical feedback is not reduced by a predetermined amount as described in Claims 7 and 26. For purposes of discussion, even if Seki did teach re-adjustment of filter depths, which is clearly not the case, Seki does not teach readjusting if a magnitude of the at least one candidate signal of unwanted acoustical feedback is not reduced by a predetermined amount as further described in Claims 7 and 26. To the contrary, Seki is not at all concerned about an amount of reduction in magnitude since the predetermined stored coefficient taught by Seki apparently eliminates the center frequency f_m when the stored coefficient is applied to the notch filter. (*See* Figure 4).

Claims 8-14 and 27-33

Applicant respectfully requests the Examiner to withdraw the rejection to Claims 8-14 and 27-33. Claims 8-14 and Claims 27-33 depend directly or indirectly from Claims 7 and 26, respectively. As discussed, Claims 7 and 26 are not anticipated by Seki. Accordingly, Claims 8-14 and 27-33 are allowable as dependent claims based on an allowable independent claim.

Claim 38

Currently amended Claim 38 recites, among other things, *a testing module which decreases the notch depth parameter if a magnitude of at least one candidate frequency is not reduced by a predetermined amount*. Applicant respectfully submits that Seki does not describe or suggest at least this element of Claim 38.

Although Seki discloses notch filters and reducing feedback generally with filter implementation, Seki does not disclose, nor describe or suggest, a testing module which decreases a notch depth parameter if a magnitude of a candidate frequency is not reduced by a predetermined amount as described in Claim 38. Moreover, there is no indication in Seki that a filter depth is decreased if the magnitude of the candidate frequency is not reduced by a predetermined amount as further described in Claim 38. Rather, as previously discussed, Seki teaches at Col. 6:49-55 and Figure 4 that a coefficient selection means selects a predetermined coefficient from a coefficient memory in accordance with an inputted peak frequency value f_{PEAK} . Thus, Seki merely takes the single step of pulling a predetermined stored coefficient out of a memory and plugging the coefficient into a notch filter to indiscriminately eliminate a frequency of interest (*see Figure 4 of Seki*).

For purposes of discussion, even if Seki taught decreasing a notch depth parameter with a testing module, which is clearly not the case, Seki does not teach decrease of a notch depth parameter if a magnitude of at least one candidate frequency is not reduced by a predetermined amount. As previously discussed, Seki is not concerned with an amount of reduction in magnitude, since Seki teaches that the frequency of interest is essentially eliminated when a coefficient is applied (*See Figure 4 of Seki*).

Appl. No. 09/658,538
Amdt. dated October 28, 2005
Reply to Office action of April 28, 2005

Claims 39-46

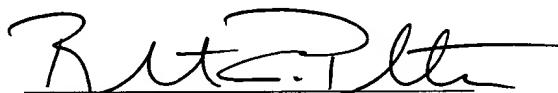
Applicant respectfully requests the Examiner to withdraw the rejection to Claims 39-46. Claims 39-46 depend directly or indirectly upon Claim 38. As discussed, Claim 38 is not anticipated by Seki. Accordingly, Claims 39-46 are allowable as dependent claims based on an allowable independent claim.

In view of the foregoing, Applicant respectfully requests that the rejections under 35 U.S.C. § 102(b) be withdrawn as to Claims 7-14, 26-33 and 38-46.

SUMMARY

Pending Claims 1 – 4, and 6 – 50 are patentable. Applicant respectfully requests the Examiner to grant allowance of the application. The Examiner is invited to contact the undersigned attorney for the Applicant via telephone if such communication would expedite examination and/or allowance of this application.

Respectfully submitted,



Robert G. Pluta
Registration No. 50,970
Attorney for Applicant

BRINKS HOFER GILSON & LIONE
CUSTOMER NUMBER 757
(312) 321-4200